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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
WASHINGTON 25, D. C.

In Cooperation with State, Federal and other Agencies

COTTON INSECT CONDITIONS, MARCH 31, 1948
(First Cotton Insect Survey Report for 1948)

The cotton insect survey will be conducted during 1948 on the same general plan as during previous years. This first report on cotton insect conditions in 1948 is based chiefly on information received from several field laboratories of the Bureau of Entomology and Plant Quarantine. Other reports will be issued as conditions warrant.

Preliminary investigations and observations made during March indicate that the boll weevils have survived the winter in smaller numbers than last year in Louisiana and Mississippi and in larger numbers in Texas and South Carolina. The amount of damage caused by the boll weevil during 1948 will be determined largely by weather conditions during June and July and the extent to which insecticides are properly used for their control in fields where they become abundant.

Thrips and cutworms are already causing some damage to the cotton crop in the Lower Rio Grande Valley of Texas where control measures are being used to check them.

Bollworms have made their appearance in the Lower Rio Grande Valley.

BOLL WEEVIL

SOUTH CAROLINA: In the vicinity of the Pee Dee Experiment Station near Florence, South Carolina, examinations were made during January of leaves and surface trash collected from woods in the vicinity of cotton fields on 17 farms and live boll weevils were found on each farm. A total of 139 weevils were found. The number found in individual examinations varied from 3 to 21 or at the rate of from 1452 weevils per acre to 9,164 weevils per acre. The average live weevils on the 17 farms during January was 3,974 per acre. Between February 19 and March 30 examinations were made on 20 farms. No boll weevils were found on three farms but on the other 17 they were found to occur at rates varying from 484 to 10,648 weevils per acre or at the average rate of 2,710 weevils per acre. The average number of live weevils per acre dropped from 3,974 in January to 2,710 in February and March.

The average number of weevils per acre found in surface trash during February and March of 1948 is slightly less than the 2,904 weevils per acre found in the spring of 1947 but the average is higher than in 1944, 1945 and 1946.

The number of weevils per acre found in the spring examinations of surface trash during each of the past 11 years is as follows:

Year	Live Boll Weevils Per Acre of Surface Trash
1938	1472
1939	3582
1940	176
1941	1960
1942	1839
1943	2995
1944	1210
1945	2580
1946	2193
1947	2904
1948	2710

It will be noted from the above table that only in three of the last ten years, 1939, 1943 and 1947, were the weevils more abundant during April in the vicinity of Florence, South Carolina than they are at the present time.

LOUISIANA: In the vicinity of Tallulah, Madison Parrish, Louisiana, 150 samples of surface trash were examined during the fall of 1947 and the same number of samples were examined during March 1948. In the fall, 73 boll weevils were found, corresponding to a rate of 1,178 weevils per acre. During March only 11 weevils were found, or a rate of 177 weevils per acre, This compares to 426 weevils per acre found during March of last year. The number of weevils in surface trash per acre is lower now than in any previous spring since 1937, and only during 2 of the past 12 years, in 1937 and 1940, was the percentage of survival lower than this year. The number of live weevils per acre in surface trash and the percent of weevils surviving the winter during the past 12 years is as follows:

Year	In Fall Examination	Number of Live Weevils Found Per Acre In Spring Examinations	Percent Survival of Weevils Entering Hibernation
1937	2118	50	2
1938	519	186	36
1939	1284	226	18
1940	2243	190	8
1941	721	920	- *
1942	1484	327	22
1943	2916	750	26
1944	2488	625	25
1945	2435	1512	62
1946	4199	1065	25
1947	2698	426	16
1948	1178	177	15

* Samples taken during the winter of 1940-41 do not give a true picture of the percentage of weevils that survived hibernation. However, that was an extremely mild winter and weevil survival was very high.

MISSISSIPPI: As a result of low boll weevil populations entering hibernation last fall and low winter temperatures, a light boll weevil emergence may be expected this spring in the Delta section of the State. The records of weevil population entering hibernation in the fall, winter temperatures and spring weevil appearances in cotton fields each year since 1939 are as follows:

Cotton Growing Season	Weevil Population Previous Fall	Minimum Temperature Previous Winter	Weevils Per Acre in Infested Fields			
			May 18	May 25	June 1	June 8
1939	-	24° F.	0	594	220	60
1940	½ normal	0° F.	0	0	0	0
1941	Scarce	21° F.	0	100	70	216
1942	Plentiful	8° F.	10	39	32	27
1943	Low	9° F.	150	91	92	131
1944	Above Average	16° F.	167	168	136	157
1945	Average	17° F.	0	0	100	131
1946	Plentiful	21° F.	50	88	113	82
1947	Plentiful	24° F.	0	50	75	283
1948	Low	3° F.				

It will be noted that about a one-half normal weevil population entered hibernation in the fall of 1939. The minimum temperature recorded at Stoneville, Mississippi during the winter of 1939-40 was zero and weevils were exceedingly scarce the following spring. Low populations entered hibernation in the fall of 1947 and the minimum temperature recorded at Stoneville was 3 degrees F. during the winter of 1947-48. A low spring emergence may therefore be expected this year.

TEXAS: In the vicinity of Waco, Texas boll weevil activity was noted in the hibernation cages on March 2, 15, 16, 19, 22, 26, 29 and 31, 1948. A total of 14 weevils were recorded as being active on the 10 cages during March of this year while during March of 1947 no weevil activity was noted in a similar group of cages. The spring survival of boll weevils in hibernation cages at Waco during 1947 was 0.18 percent. Judging from the hibernation records made during the past years, the activity of boll weevils in the cages this spring is an indication that greater survival may be expected this year than that which occurred in 1947.

COTTON FLEAHOPPER

TEXAS: At Waco the first cotton fleahopper emergence from the hibernation cages occurred on March 19 when 17 nymphs emerged. In 1947 the first emergence occurred on March 24 and in 1946 it occurred on March 11. Cotton fleahopper emergence in the hibernation cages at Waco during March of the past three years was as follows:

Year	Number of Cotton Fleahoppers
1946	1,046
1947	192
1948	8,087

BOLLWORM

TEXAS: On March 22, larvae of the bollworm (*Heliothis, armigera* (Hbn)) were found feeding on young cotton in Mexico near Brownsville, Texas. Activity by this insect has also been noted in the Lower Rio Grande Valley of Texas.

MISCELLANEOUS INSECTS

TEXAS: Cutworms have been reported as causing damage in the Lower Rio Grande Valley of Texas and measures are being taken for their control in fields where they are abundant.

Thrips have been reported on young cotton in the Lower Rio Grande Valley where the cotton was planted immediately following the harvesting of vegetable crops. Thrips are now rather plentiful in some of the onion fields in Willacy County and when the onions are harvested some movement of these insects to cotton is to be expected.